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(54) Title: COMPOSITE METAL PRODUCT AND METHOD FOR THE MANUFACTURING OF SUCH A PRODUCT

$$\frac{N}{C+N}$$

(I)

(57) Abstract: The invention concerns a composite metal product, which contains 30-90 vol-% of a hard phase in the form of particles of substantially M(C,N)-carbonitride or M(C,N,O)-carbonitrideoxide, commonly referred to as hard phase of MX-type, where M to at least 50 atomic-% consists of titanium, which particles are essentially homogenously distributed in a matrix consisting of a hardenable steel, and wherein the atomic-% ratio between C and N shall satisfy the condition $0.1 < \text{(formula I)} < 0.7$. At the manufacturing of the product, a powder mixture, which contains powder of titanium carbide, titanium nitride, and/or titanium carbonitride in such an amount that its content of titanium atoms correspond to at least 50 % of the metal atoms in said hard phase of MX-type in the final metal product, and at least the main part of other constituents of the final metal product, is milled together. A green body is formed of the milled product, and the green body is subjected to liquid phase sintering at a temperature of 1350-1600 °C and subsequently cooled, causing the liquid phase to solidify, wherein, during said liquid phase sintering and subsequent cooling, said hard phase particles of MX-type obtain their final composition and size.